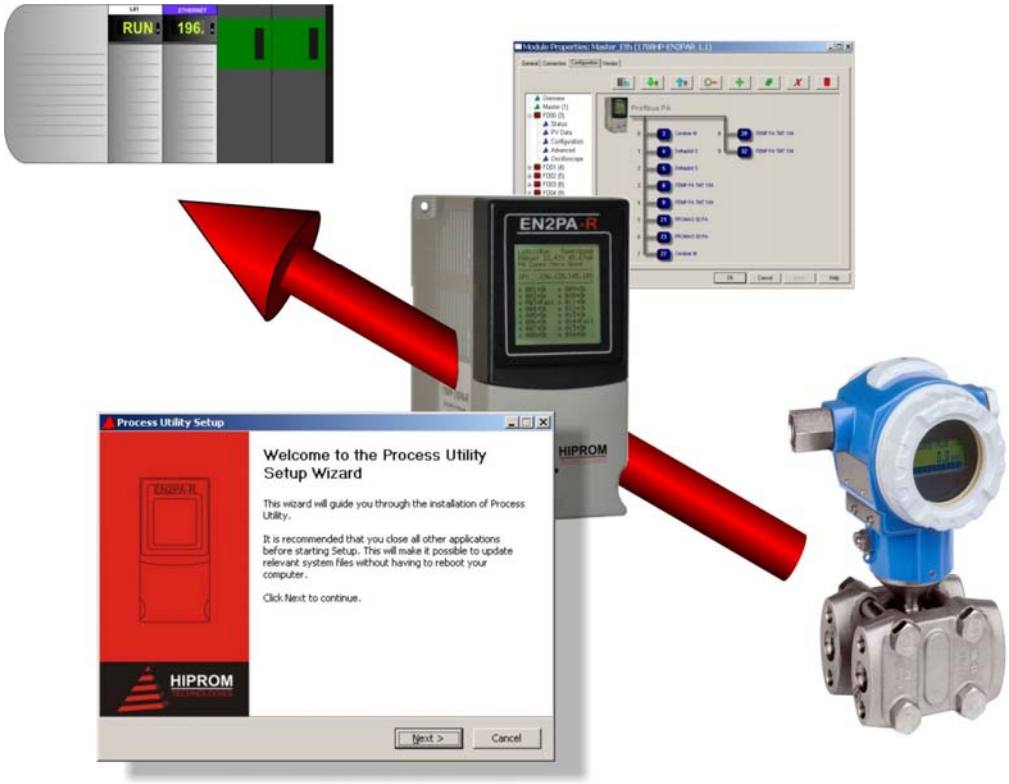
HSProcessUtility

Revision 1.13


RUN
196.
EN2PA-R
HIPROM
Process Utility Setup
Welcome to the Process Utility Setup Wizard
This wizard will guide you through the installation of Process Utility.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
HIPROM
Next >
Cancel

INTRODUCTION

HSProcessUtility provides a simple environment to manage the GSD and DTM catalogs for a number of Hiprom products. These include :

- 1788HP-EN2PA-R Add On Profile (EtherNet/IP to Profibus-PA)
- 1788HP-CN2PA-R Add On Profile (ControlNet to Profibus-PA)
- ThinFrameEx (FDT Thin Frame)

INSTALLATION

The HSProcessUtility will be automatically installed when the one of the 1788HP-EN2PA-R or 1788HP-CN2PA-R Add On Profiles are installed.

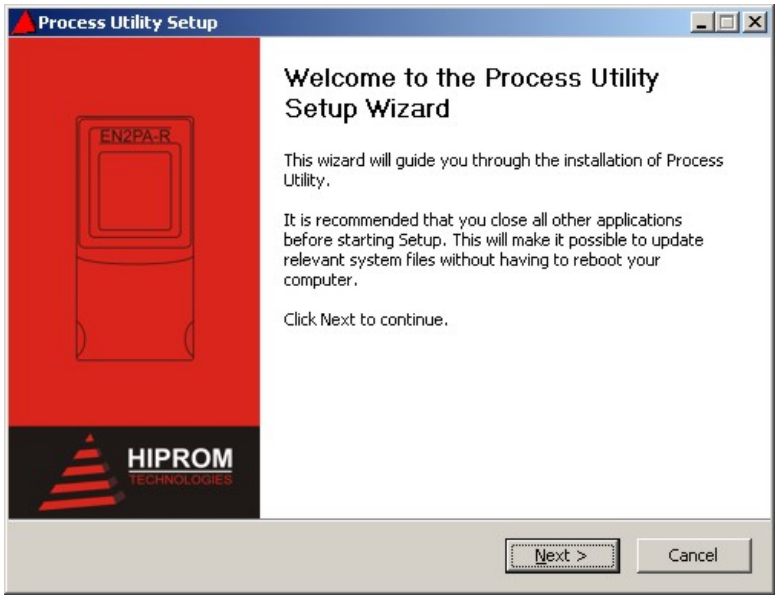
Alternatively, it can be loaded separately by running the setup file :

Process Utility Setup x.xx.exe

,where x.xx represents the version.

Components that will be installed as part of the HSProcessUtility included :

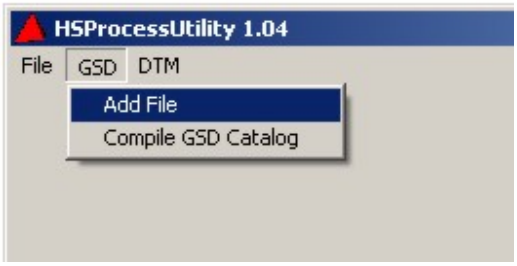
- HSThinFrameEx (FDT Frame)
- DTMs
  - HSEtherCIP - ComDTM
  - HSEN2PAR - ChannelDTM
  - HSEN2PA - ChannelDTM
  - HSENBT - ChannelDTM
  - HSChassis - ChannelDTM
- GSD Catalog (Endress+Hauser preloaded)
- GSD Files (Endress+Hauser preloaded)


Process Utility Setup
EN2PA-R
HIPROM
TECHNOLOGIES
Welcome to the Process Utility Setup Wizard
This wizard will guide you through the installation of Process Utility.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

GSD MANAGEMENT

A GSD file (Generic Station Description), is a text file, usually provided by the device manufacturer, which contains a description of the Profibus device and its communication parameters

Adding GSD Files

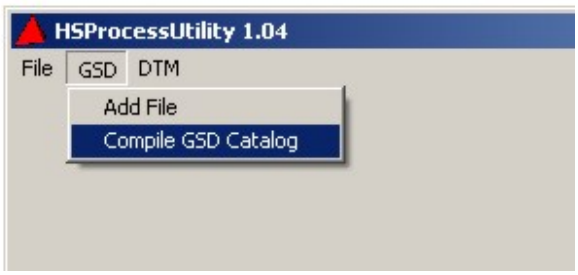


New GSD files can be added by selecting the Add File item under the GSD menu. Once a file or multiple files are selected, it is added to the GSD folder located at :

C:\Hiprom Software\HSProcessUtility\GSD

The imported files are then checked and any exceptions displayed.

Compiling GSD Catalog



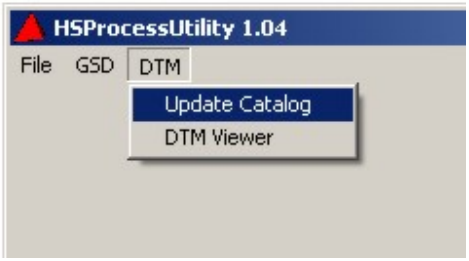
Following any changes to the GSD compliment, it is necessary to recompile the GSD catalog. This is achieved by selecting the **Compile GSD Catalog** item in the GSD menu .

DTM MANAGEMENT

A Device Type Manager (DTM) is a software driver providing a graphical interface to the parameters and diagnostics of a specific field device. These drivers comply with the Field Device Tool (FDT) specification and can be hosted by any FDT compliant frame.

DTMs are usually supplied by the field device manufacturer and must be installed separately.

Update DTM Catalog

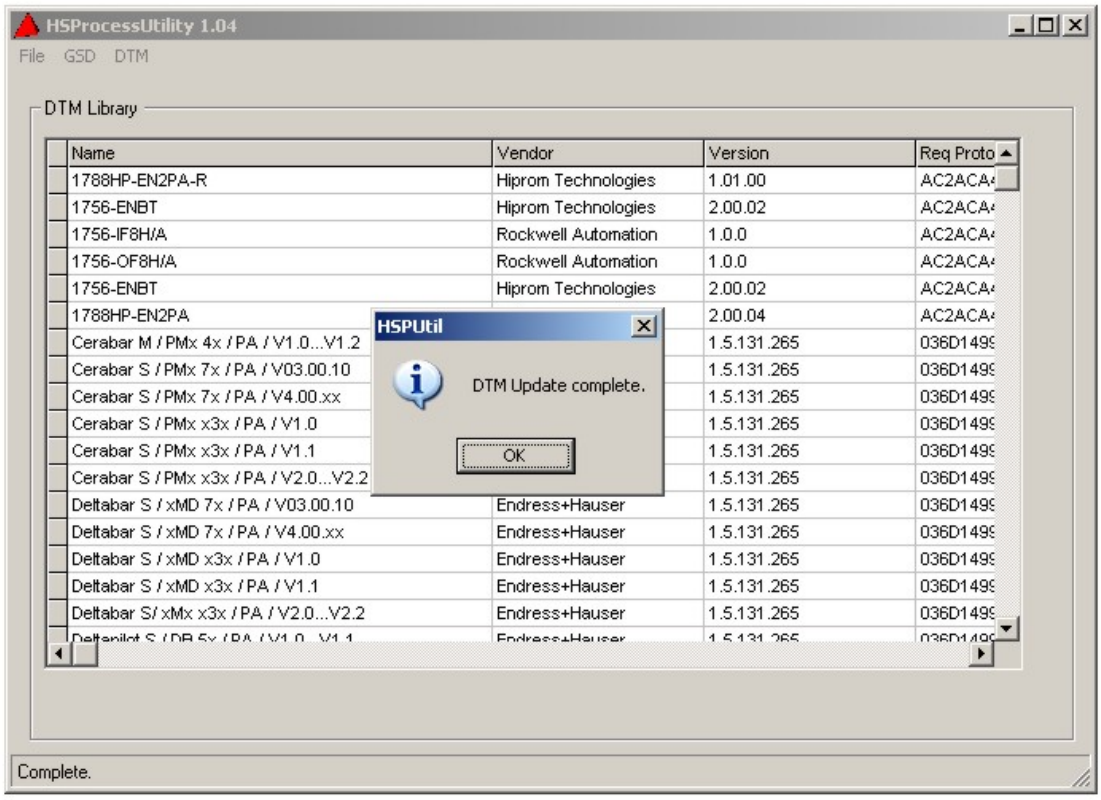


After the installation of one or more DTMs, the HSProcessUtility's DTM catalog must be updated. This is achieved by selecting the **Update Catalog** item under the DTM menu.

This process finds all the DTM drivers installed on the PC and catalogs them for the ThinFrameEx software.

Please note that this functions may take several minutes, depending on the number of DTMs installed.

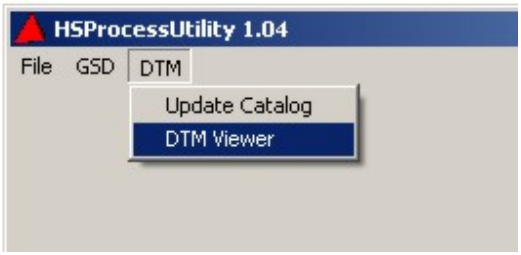
On completion the results of the DTM catalog are displayed in tabular format.


HSProcessUtility 1.04
File GSD DTM
DTM Library
Name
Vendor
Version
Req Proto
1788HP-EN2PA-R
Hiprom Technologies
1.01.00
1756-ENBT
Hiprom Technologies
2.00.02
1756-IF8H/A
Rockwell Automation
1.0.0
1756-OF8H/A
Rockwell Automation
1.0.0
1756-ENBT
Hiprom Technologies
2.00.02
1788HP-EN2PA
2.00.04
Cerabar M / PMx 4x / PA / V1.0...V1.2
1.5.131.265
Cerabar S / PMx 7x / PA / V03.00.10
1.5.131.265
Cerabar S / PMx 7x / PA / V4.00.xx
1.5.131.265
Cerabar S / PMx x3x / PA / V1.0
1.5.131.265
Cerabar S / PMx x3x / PA / V1.1
1.5.131.265
Cerabar S / PMx x3x / PA / V2.0...V2.2
1.5.131.265
Deltabar S / xMD 7x / PA / V03.00.10
Endress+Hauser
1.5.131.265
Deltabar S / xMD 7x / PA / V4.00.xx
Endress+Hauser
1.5.131.265
Deltabar S / xMD x3x / PA / V1.0
Endress+Hauser
1.5.131.265
Deltabar S / xMD x3x / PA / V1.1
Endress+Hauser
1.5.131.265
Deltabar S/ xMx x3x / PA / V2.0...V2.2
Endress+Hauser
1.5.131.265
HSPUtil
DTM Update complete.
OK
Complete.

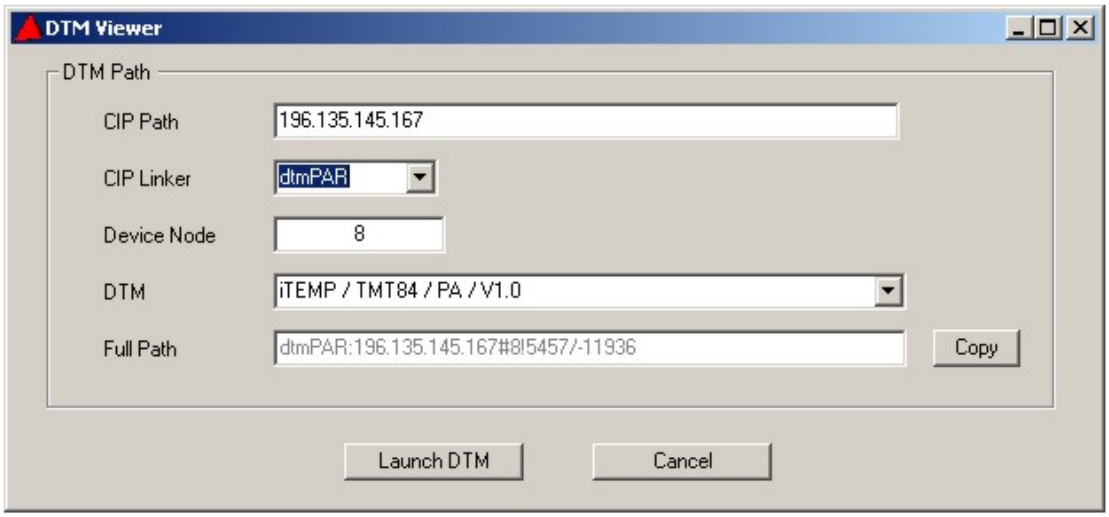
DTM Viewer

DTMs can be launched using the **HSThinFrameEx** utility by passing a valid DTM path in the command line. The structure of this path is discussed in a later chapter.

The **DTM Viewer** provides a simple method of constructing the DTM path and launching the DTM. Open the DTM Viewer by selecting the **DTM Viewer** item under the DTM menu.



Complete the **CIPPath** with the full CIP path, from the PC to the linking device (in the case of PA) or target device (in the case of a native CIP device).



The **Linker** provides the communication linker between the HSThinFrameEx and the linking device. Options include :

- dtmCIP - Native CIP devices (eg Allen-Bradley E3 overload)
- dtmPA - EN2PA Profibus PA linking device
- dtmPAR - EN2PA-R / CN2PA-R Profibus PA linking devices

The **Device Node** is valid only for Profibus PA field devices. It refers to the PA node address of the target field device.

The device DTM to be used can be selected using the **DTM** combo box.

With the above defined selections, the DTM **Full Path** is assembled and the DTM can be launched.

For convenience the Full Path is shown and can be copied to the clipboard and hence used to launch the DTM from other environments eg. FTView.

To launch the DTM press the **Launch DTM** button. This will launch the HSTHinFrameEx with the aforementioned DTM Full Path in the command line.

.

NOTE: The DTMViewer does not specify the DTMFunctionPage and relies on the Function selection in HSThinFrameEx.

NOTE: DTMViewer specifies the observer role to run the DTM. This may not be suitable for all functions or all DTMs. Ensure that the correct role is specified when launching from your own application.

HSThinFrameEx - FDT FRAME

As described in the previous chapter, HSThinFrameEx uses the DTM path passed to it in the command line to launch and host a specific DTM.

The HSThinFrameEx is executed by running :

C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe *DTMFullPath*

DTM Full Path

The DTM full path has the following structure :

Linker**:**CIPPath**#**Node**!**DeviceID**/**DtmCRC **{**FunctionPage**/**Login**}** **$**PosX**/**PosY

Each field in the path will now be discussed.

Linker

The Linker provides the communication linker between the HSThinFrameEx and the linking device or target device . Options include :

- dtmCIP - Native CIP devices (eg Allen-Bradley E3 overload)
- dtmPA - EN2PA Profibus PA linking device
- dtmPAR - EN2PA-R / CN2PA-R Profibus PA linking devices

CIP Path

The full path from host PC to target device, (in the case of dtmCIP) or to linking device, (in the case of dtmPA or dtmPAR) . The CIP path must be preceded by a colon (**:**).

Node

The field device PA node address in the case of dtmPA or dtmPAR linkers. This field must be omitted in the case of a dtmCIP linker.

This field must be preceded by a hash (#).

DeviceID

The Device ID is the unique device identification code assigned by the manufacturer. Together with the DTM CRC checksum field it is used to uniquely identifier each DTM.
This field must be preceded by an exclamation mark (**!**).

DTM CRC Checksum

Together with the Device ID this field it is used to uniquely identifier each DTM.
This field must be preceded by a slash (**/**).

Function Page

This specifies which Function will be launched within the DTM. The functions differ from DTM to DTM. Examples of function pages are :

- observe
- diagnosis
- online parameterization

Alternatively, the FunctionPage's index can be included by using the asterisks (*) character. For example, ***3** would use the forth page as the index numbers from zero.

This field can be omitted. If an invalid function page is passed, or if it is omitted, the HSTHinFrameEx will display a list of all function pages which can then be selected by the user.

This field must be preceded by an open brace bracket (**{**).

Login

This specifies which FDT role will be used to login to the DTM.
If omitted, the observer role will be used. Examples of roles are :

- observer
- operator
- maintenance
- planningEngineer

The login must be specified in conjunction with the Function Page and preceded by a slash (*/*) and succeeded by a close brace bracket (**}**).

WARNING: **Launching a DTM with certain logins, may allow the user to make unauthorized changes to the configuration of a field device. This could in turn lead to serious field device malfunction, equipment damage and possible serious injury to personnel.**

PosX

Specifies the X position (pixels) of the ThinFrameEx window.

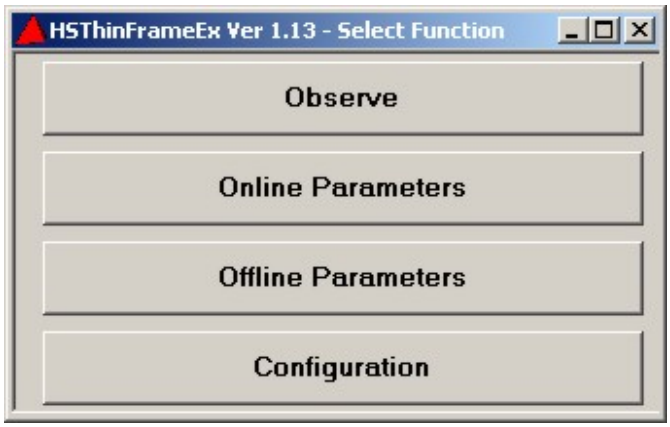
PosY

Specifies the Y position (pixels) of the ThinFrameEx window.

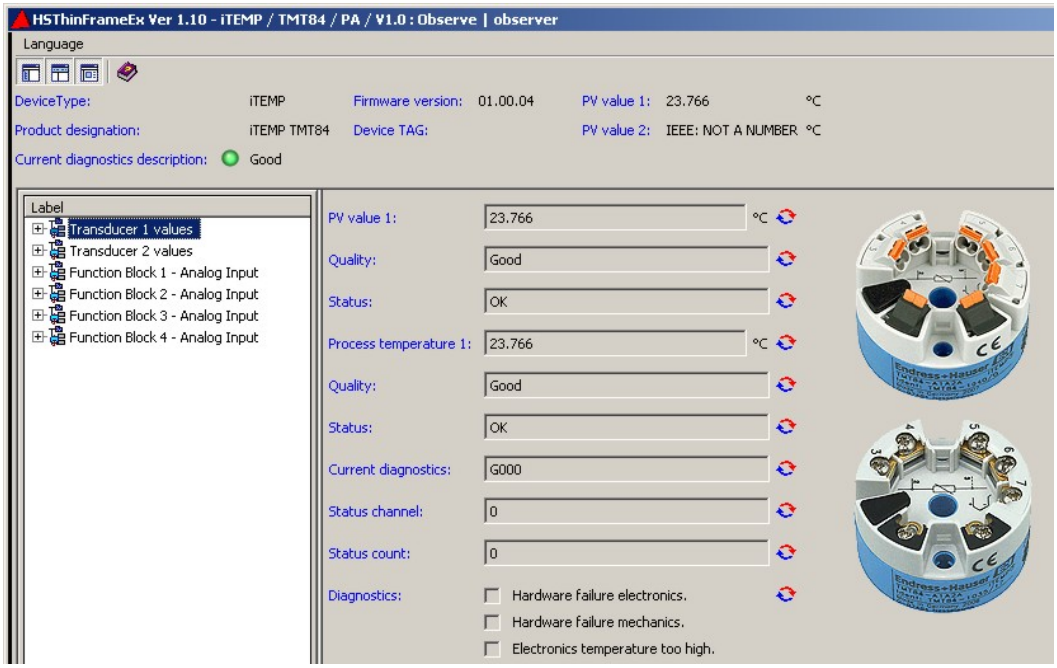
NOTE: The position may omitted, but if included, then it must be included in full, that it, both PosX and PosY.

Function Selector

HSThinFrameEx will display a Function Page list, if no valid function page is passed.



Clicking on the required function will launch the DTM.



Path Examples

Example 1

"C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe" dtmPAR:196.135.145.167#8!5457/-11936

This launches the DTM for a E+H TMT84 at PA node 8, with the En2PAR linking device at IP address 196.135.145.167.

Example 2

"C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe" dtmPAR:196.135.145.167#8!5457/-11936{diagnosis}

The same as example 1, except the diagnosis function page is specified.

Example 3

"C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe" dtmPAR:196.135.145.167#8!5457/-11936{diagnosis/operator}

The same as example 2, except the login is now specified as operator.

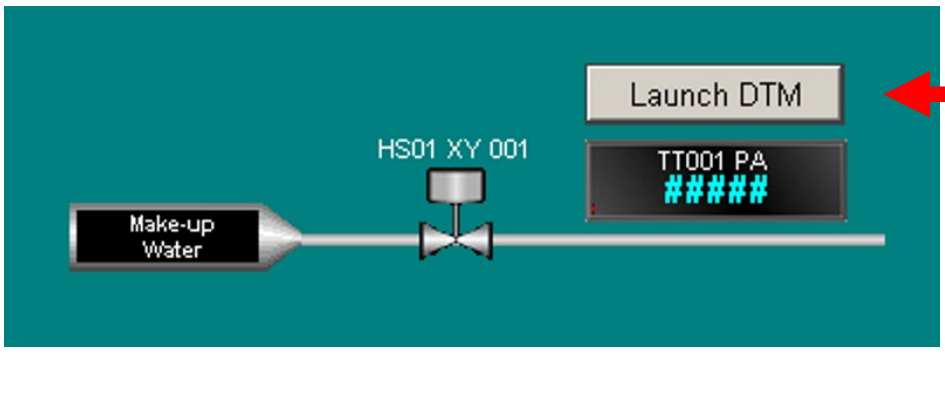
Example 3

"C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe" dtmCIP:196.135.145.157,1,2,2,31!120/-29470

This launches the DTM for an AB PowerFlex700 drive on ControlNet node 31. The path makes use of a 1756-ENBT at IP address 196.135.145.157, a 1756-CNB in slot 2.

FTView Example

In this example VBA code under a standard FTView button is used to launch the relevant DTM for the PA field device.




```
Private Sub Button2_Released()

    Const FrameExePath = "C:\Hiprom Software\HSThinFrameEx\HSThinFrameEx.exe"

    Const DTMCmdLine = "dtmPAR:196.135.145.167#8!5457/-11936{diagnosis}"

    Shell FrameExePath & " " & DTMCmdLine, 1

End Sub
```

NOTE: It is recommended that a common subroutine or function be used to launch HSThinFrameEx, with each button just passing the subroutine the DTM Path, without the login information. This will allow the login to be modified based on the FTView security model for that specific application.

HIPROM TECHNOLOGIES
TEL: +27 11 787 4458
FAX: +27 11 787 7937

POSTAL
P.O. Box 732
Pinegowrie
South Africa
2123

PHYSICAL
369 Pretoria ave
Ferndale, Randburg
South Africa